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of a series of short essays on the life history of a number of our more common insects. The matter is handled in a simple and straightforward manner, and is well illustrated by figures in the text and by several full-page plates. Although largely a compilation, it is written by one who has done much original work in this field; hence the accuracy of its statements can be depended upon. While the entomologist will find in its pages comparatively little that is new, the amateur and the teacher who is trying to interest young people in what is going on around them will be able to gain much help from it.

J. H. C.

Weed's Stories of Insect Life.¹—This book is similar in its purpose to the preceding, and resembles it in its method of treatment of the subject; but it is intended to be used by those who teach very young pupils. Such teachers will find it a helpful book.

J. H. C.

BOTANY.

North American Lemnaceæ.²—It cannot be doubted that the high character of the late Dr. George Engelmann's contributions to botany is largely due to the judicious concentration of his energies. No other American botanist of such wide general experience has so carefully restricted his published researches to the intensive examination of a few very difficult families and genera. Thus it was that Dr. Engelmann laid a sure foundation for a satisfactory classification of groups like Cactaceæ, Cuscuta, Juncus, Agave, Yucca, Lemnaceæ, and Alismaceæ. In consideration of this fact, the present director of the Missouri Botanical Garden could not have acted more wisely than in devoting so large a part of the present energies of his institution to the completion of work so well begun by his illustrious predecessor. Thus the recent reports of the Garden contain a series of valuable papers upon Yucca, Agave, Alismaceæ, etc., which, although based in part upon the collections and previous work of Engelmann, lose none of their originality on that account, but only

¹ *Stories of Insect Life*, by Clarence Moores Weed. Boston, Ginn and Company. 8vo, 54 pp., with illustrations.

² "A Revision of the American Lemnaceæ Occurring North of Mexico," by Charles Henry Thompson. Advance separate from the *Ninth Annual Report of the Missouri Botanical Garden*, issued Nov. 1, 1897. 8vo, 22 pp., 4 pll.

gain in worth in proportion as their originality begins at a higher plane and is built upon a surer foundation than could have been the case in other groups.

To this suite of useful papers Mr. C. H. Thompson has just added a revision of the North American Lemnaceæ. These diminutive aquatics, popularly called duck meats, include the most minute flowering plants. While from their peculiar structure they have long been familiar examples of such morphological phenomena as phylloidal stem, vegetative reproduction, reduction of floral structures, etc., their systematic interrelationship and geographic distribution have been, notwithstanding the critical treatises of Hegelmaier and Engelmann, but imperfectly understood. Mr. Thompson's paper is the first upon its peculiar field, since no previous monograph has at once covered and been restricted to North America.

While Engler in the *Natürlichen Pflanzenfamilien* reduces Wolffia to a subgenus of Wolffia, Mr. Thompson follows Hegelmaier in recognizing four genera in the family, namely, Spirodela, Lemna, Wolffia, and Wolffella, but rearranges them so that Wolffella may stand next Lemna. No change is made in the North American Spirodela (represented by the common *S. polyrrhiza*), but a new South American species of somewhat doubtful identity and remarkably dissevered range is added to the genus. In Lemna the recognized North American species are *L. gibba*, *minor*, *trisulca*, *perpusilla* (with var. *trinervis*), *cyclostasa*, and *minima*. By the name *L. cyclostasa* (Ell.) Chev. is designated the plant which has for some years been known as *L. valdiviana* Phil., since the latter species, as the author believes, is identical with the *L. minor* var.? *cyclostasa* of Elliott's *Botany of South Carolina and Georgia*. It is a pleasure to see that the range of this species, unaccountably incomplete in Britton and Brown's *Flora*, is duly extended to the three southern New England states. In Wolffella three North American species are recognized; namely, *W. floridana* (*Wolffia gladiata*, var. *floridana* J. D. Smith), *W. oblonga*, and *W. lingulata*. Of Wolffia there are also three species credited to the continent, — *W. papulifera* (a new species from Missouri, discovered by Bush), *W. punctata*, and *W. columbiana*.

Mr. Thompson's descriptions are clear and ample, and the copious outline illustrations, which are of his own drawing, are satisfactory. His observations upon the "resting stages" (Hegelmaier's *Wintersprosse*) are worthy of mention, and above all the careful citation of synonymy and enumeration of *exsiccati* make the paper a very welcome contribution to American systematic botany. B. L. R.